

Airway + Breathing disorders, CPR notes

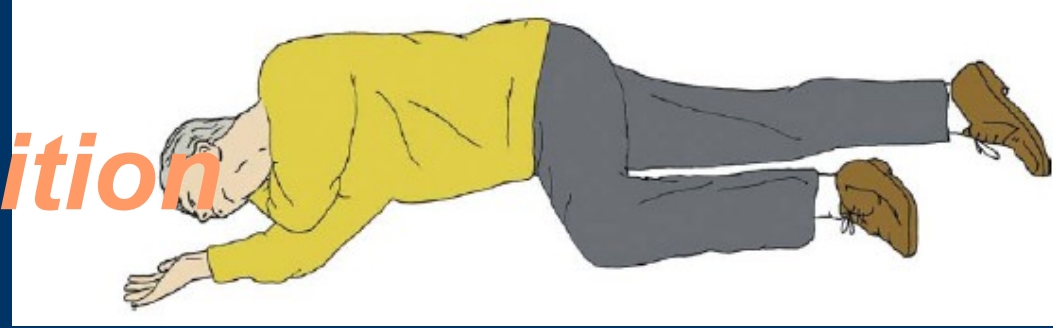
Lukas Dadak, MD
St. Ann's University Hospital, Brno
15740@mail.muni.cz

Basic Vital signs:

- RESPOND = consciousness
- A+B breathing
- C circulation

Primary Survey = 20s

Recovery position

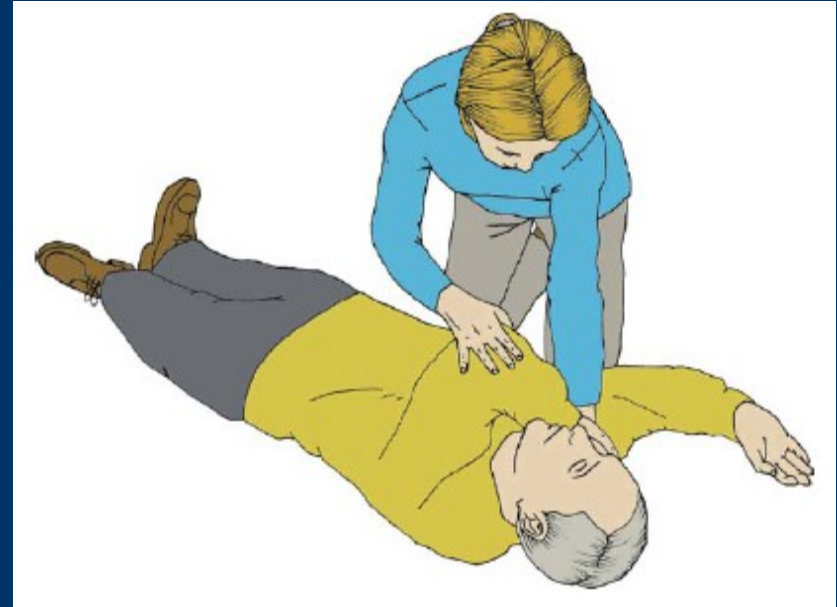
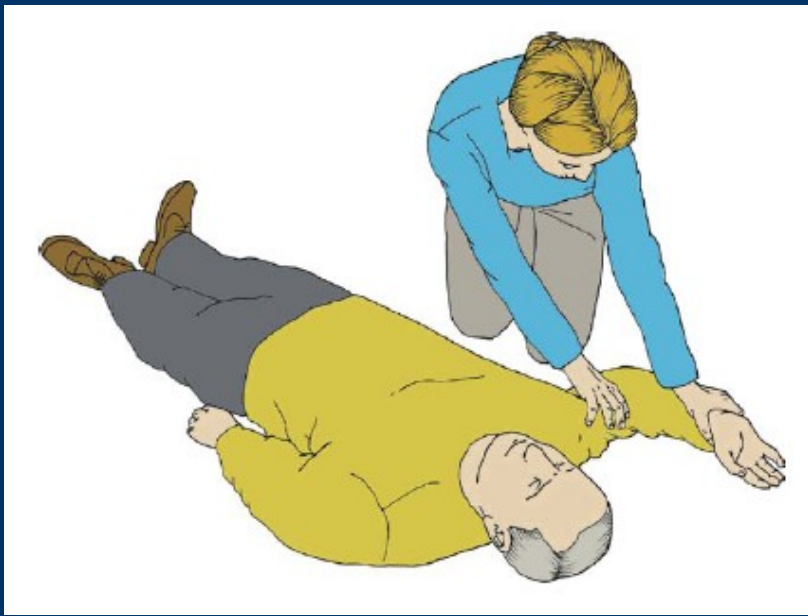


- several variations
- stable, near a true lateral position with the head dependent,
- with no pressure on the chest to impair breathing

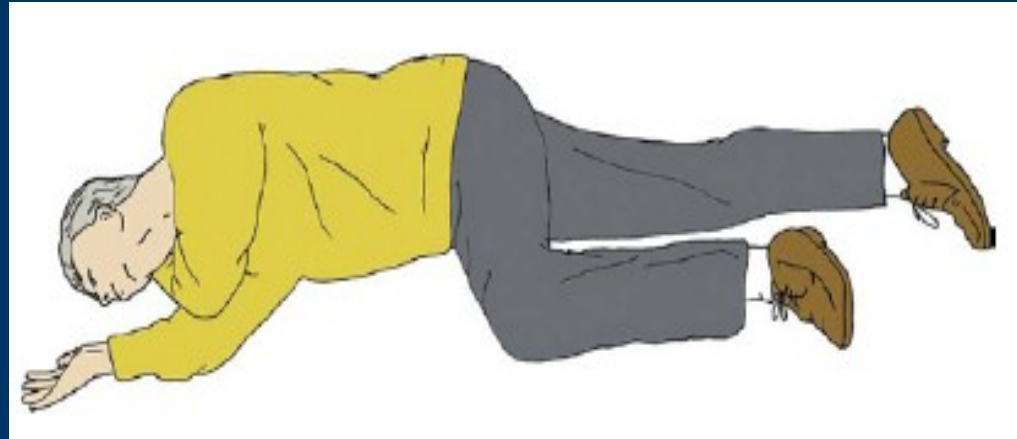
I: coma + spontaneous breathing

KI: back injury

KEY: check for breathing



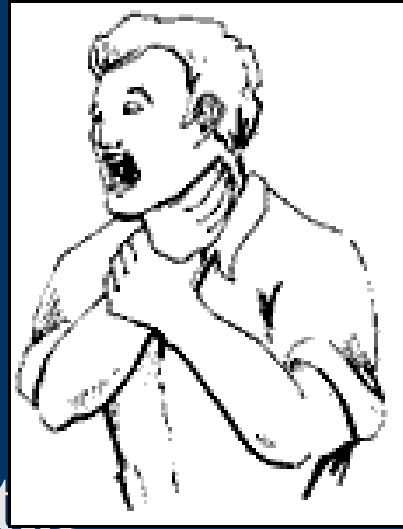
- Remove the victim's spectacles.
 - Kneel beside the victim and make sure that both legs are straight.
 - Place the arm nearest to you out at right angles to the body, elbow bent with the hand palm uppermost
 - Bring the far arm across the chest, and hold the back of the hand against the victim's cheek nearest to you
-
-



- With your other hand, grasp the far leg just above the knee and pull it up, keeping the foot on the ground.
 - Keeping his hand pressed against his cheek, pull on the far leg to roll the victim towards you onto his side.
 - Adjust the upper leg so that both hip and knee are bent at right angles.
 - Tilt the head back to make sure the airway remains open.
-
-

Choking Conscious Adult

- uncommon but potentially treatable
- less than 1% of these incidents are fatal

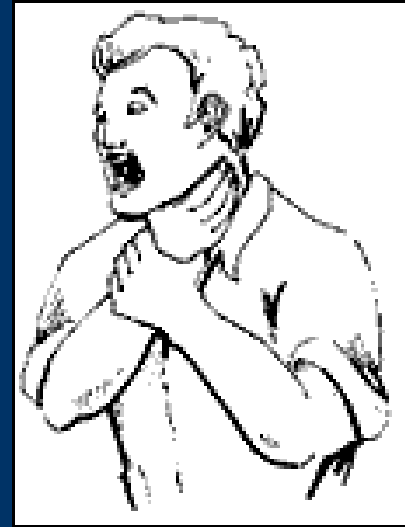


When? - witnessed

- while eating
- while playing (coins, toys)



Choking



Sings:

- clutch throat or mouth
 - cough, gurgle, or vomiting noise, wheezing
 - inability to speak or cry / great difficulty
 - Breathing is labored.
 - Anxiety
 - turns blue (cyanosis) from lack of oxygen.
 - if breathing is not restored, then becomes unconscious.
-
-

Inability to relieve the obstruction can cause:

- Breathing failure
- Brain damage
- Death



Narrowest place of airway:

Adult: glottis

Child subglottic space

Figure 27: Adult Airway
Anatomy of adult airway

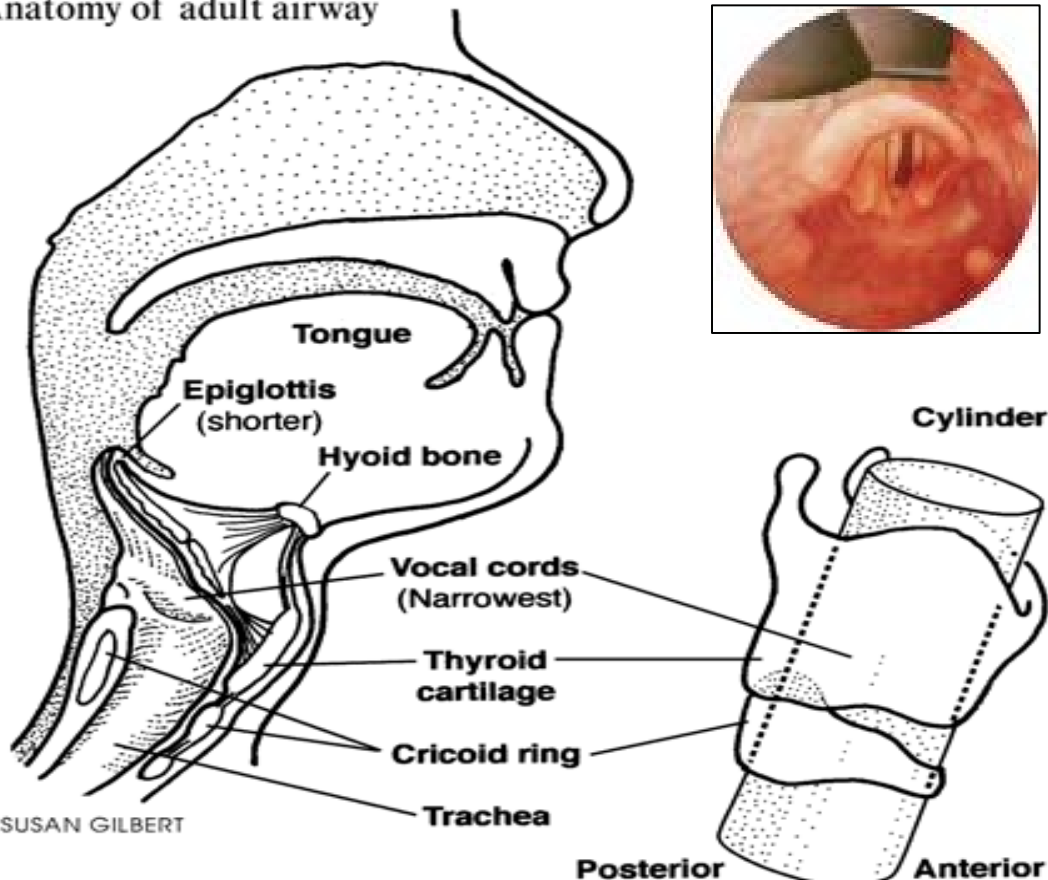
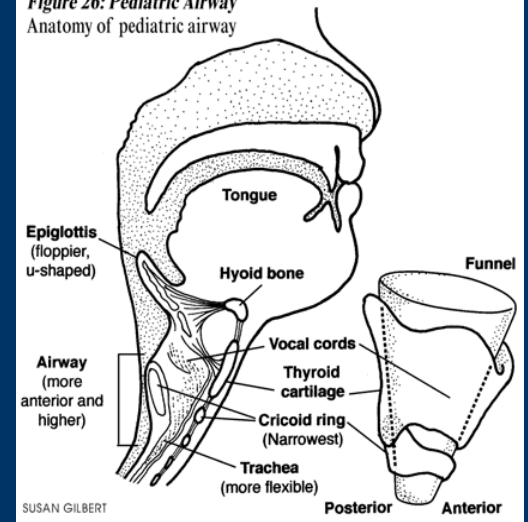


Figure 26: Pediatric Airway
Anatomy of pediatric airway



Foreign-Body Airway Obstruction

- relief FBAO = life saving procedure
 - safe, effective, simple

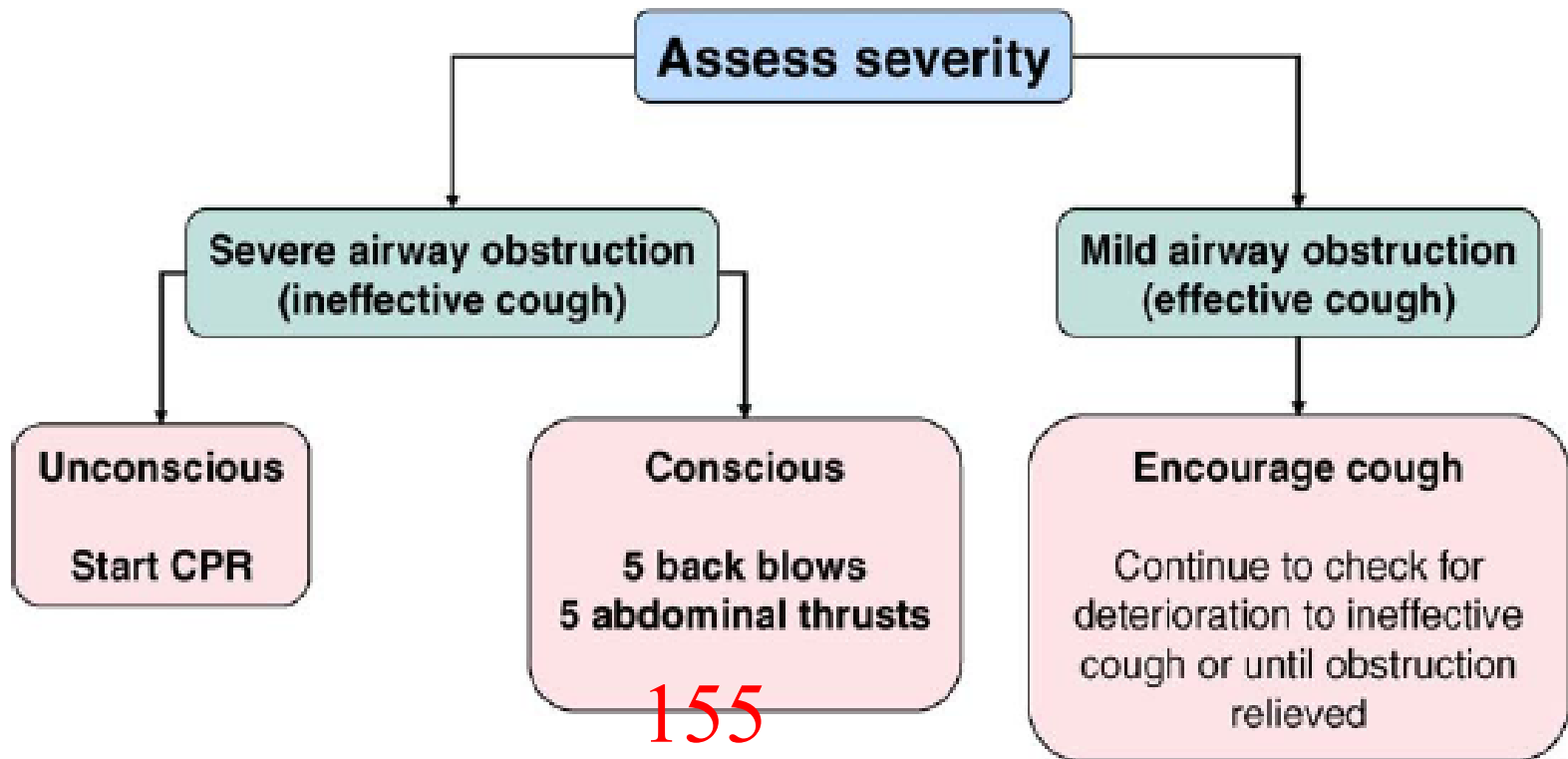
 - Cough and bend forwards
 - 5 Back blows/slaps
 - 5 Abdominal thrusts = (Heimlich Maneuver)
 - Chest thrusts
 - often you will need more than 1 procedure to clean airway
-
-

Mild obstruction

- Coughing generates high and sustained airway pressures and may expel the foreign body.
- Aggressive treatment, (back blows, abdominal thrusts, chest compression), may cause potentially serious complications and could worsen the airway obstruction.
- Continuous observation until they
 - improve
 - severe airway obstruction may develop.

First aid:

Adult FBAO Treatment



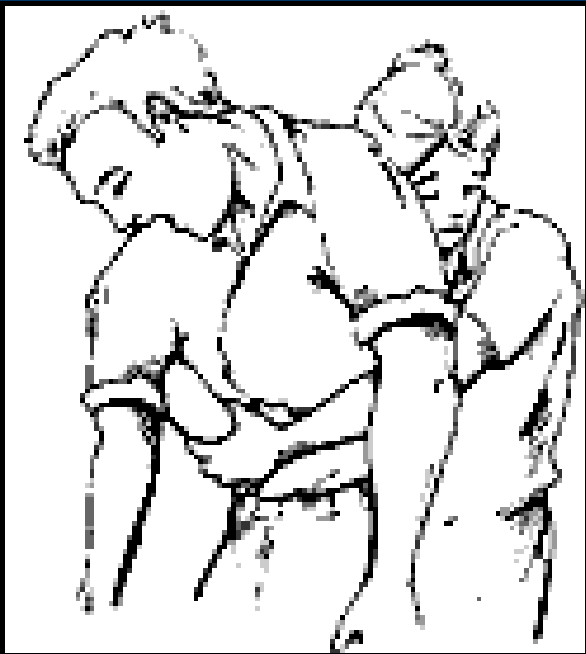
155

Back blows

bend forwards

- Stand to the side and slightly behind the victim.
 - Support the chest with one hand and lean the victim well **forwards** so that when the obstructing object is dislodged it comes out of the mouth rather than goes further down the airway.
 - Give up to five sharp blows between the shoulder blades with the heel of your other hand
-
-

Heimlich man. = abdomen thrust



Increase pressure
under foreign body

- Stand behind the victim and put both arms round the upper part of his abdomen.
- Lean the victim forwards.
- Clench your fist and place it between the umbilicus and xiphisternum.
- Grasp this hand with your other hand and pull sharply inwards and upwards.
- Repeat up to five times

Chest thrust

- markedly obese persons
- late stages of pregnancy



Increase pressure
under foreign body

Following successful treatment:

Victims with a persistent cough, difficulty swallowing or the sensation of an object being still stuck in the throat should be examined

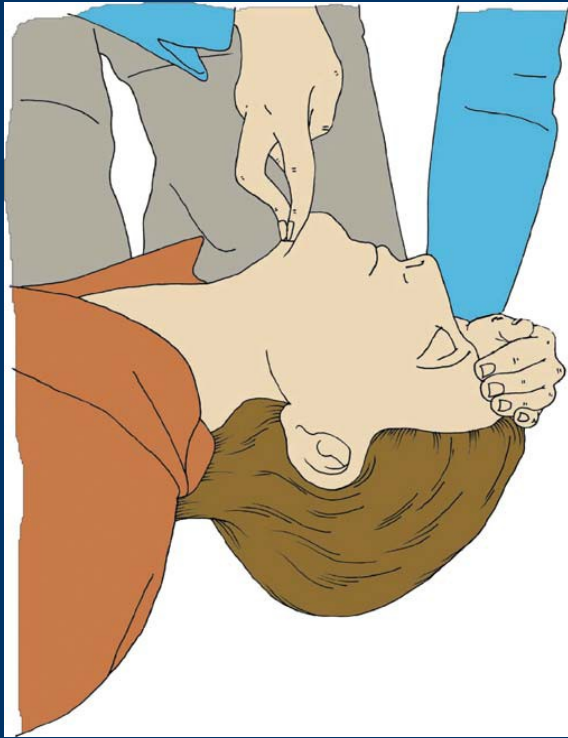
- Abdominal thrusts can cause serious internal injuries
 - all victims treated with abdominal thrusts should be examined for injury by a doctor
-
-

Clear airway if necessary during coma

- with the casualty supported on the side, tilt the head backwards and slightly down.
 - Open the mouth and clear any foreign object. Only remove dentures if loose or broken.
 - Use your 2 fingers only - if you see solid material in the mouth
 - Do not push fingers where you can not see
-
-

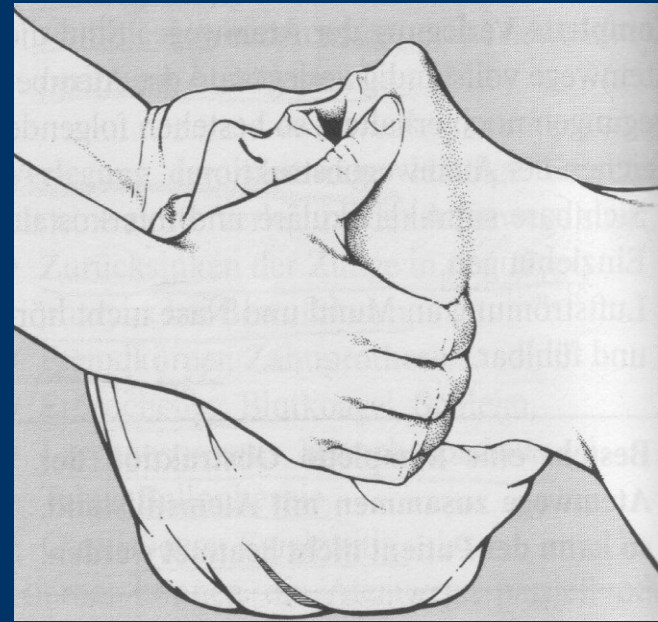
Keep airway open

head tilt, chin lift



man.

Esmarch



Guedel airway *Oro-Pharyngeal Airway*



I: unconsciousness
+ airway obstruction with tongue

Correct size OPA:

- distance angle of mouth --- ear

Risk in mild unconsciousness:

- vomitus + aspiration



Naso-Pharyngeal Airway (trumpet)



Correct size of NPA:

- distance nostril --- ear

Risk:

- bleeding from nasal cavity

 - Use of lubricant is essential
-
-

Face mask ventilation



Positive pressure ventilation by bag-valve mask

- correct volume = movement of chest
- f 10/min
- 100% O₂
- 1 hand hold:
 - thumb + index f.
 - 3 ff. - chin
- 2 hands

